

Amendments to the Claims:

This listing of the claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1 (Canceled)

2 (Currently Amended): [[The]] A method according to claim 1 of producing a solid electrolyte comprising:

preparing solid electrolyte material with a composition expressed by a formula: (1-x)

$ZrO_2 + xSc_2O_3$ (where x is a number equal to or greater than 0.05 and equal to or less than 0.15);
and

sintering the solid electrolyte material to obtain a solid electrolyte using a spark plasma
method, which is provided with:

sintering the solid electrolyte material to obtain sintered material while applying a first
compression load to the solid electrolyte material at a level equal to or less than 40 MPa; and

cooling the sintered material to obtain the solid electrolyte while applying a second
compression load, less than the first compression load, to the sintered material, wherein the
second compression load has a value equal to or greater than 10 MPa and equal to or less than 15
MPa.

3 (Currently Amended): The method according to claim [[1]] 2, wherein the solid electrolyte material is sintered at a temperature equal to or greater than 1000 °C and equal to or less than 1150 °C for time equal to or greater than 30 minutes and equal to or less than 180 minutes.

4 (Currently Amended): The method according to claim [[1]] 2, wherein the solid electrolyte material is sintered by rising a temperature at a temperature rising speed equal to or greater than 250 °C/minute.

5 (Currently Amended): The method according to claim [[1]] 2, wherein after sintering the solid electrolyte material, the solid electrolyte material is cooled by dropping a temperature at a temperature drop speed equal to or less than 200 °C/minute.

6 (Currently Amended): The method according to claim [[1]] 2, wherein the solid electrolyte material is comprised with powder of citric acid salt.

7 (Currently Amended): The method according to claim [[1]] 2, wherein the solid electrolyte material is calcined and pulverized prior to sintering.

8 (Currently Amended): The method according to claim [[1]] 2, wherein the solid electrolyte material is formed in a compact while being sintered.

9 (Currently Amended): The method according to claim [[1]] 2, wherein after the solid electrolyte material is sintered, heat-treatment is conducted at a temperature equal to or greater than 900 °C and equal to or less than 1000 °C for time equal to or greater than 5 hours and equal to or less than 15 hours.

10 (Currently Amended): The method according to claim [[1]] 2, wherein suppose that an X-ray diffraction intensity is I, the solid electrolyte has a cubic crystal ratio, $[I \text{ (cubic crystal: 220)} / \{I \text{ (cubic crystal: 220)} + I \text{ (\beta-phase: 220)}\}] \times 100 \text{ (\%)}$, equal to or greater than 90 %.

11 (Currently Amended): The method according to claim [[1]] 2, wherein the solid electrolyte has a mean grain diameter equal to or less than 3μm.

12 (Currently Amended): A solid electrolyte obtained by a spark plasma method according to claim 2 and [[a]] the composition expressed by [[a]] the formula: $(1-x) \text{ ZrO}_2 +$

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$x\text{Sc}_2\text{O}_3$ (where x is a number equal to or greater than 0.05 and equal to or less than 0.15) wherein suppose that an X-ray diffraction intensity is I , the solid electrolyte has a cubic crystal ratio, $[I(\text{cubic crystal: } 220) / \{I(\text{cubic crystal: } 220) + I(\beta\text{-phase: } 220)\}] \times 100$ (%), equal to or greater than 90 %.